

C L A I M S

1. A variable communication system

2 characterized by comprising:

3 a transmission device including information
4 amount magnitude discrimination means for discriminating
5 whether an amount of information to be transmitted per
6 unit time is relatively large or small, first
7 communication data sending means for, when said
8 information amount magnitude discrimination means
9 discriminates that the amount of information to be
10 transmitted is relatively large, digitally modulating
11 first information as the information into information in
12 a signal form having a predetermined bandwidth with a
13 predetermined center frequency, and sending out the
14 information as communication data, and second
15 communication data sending means for, when said
16 information amount magnitude discrimination means
17 discriminates that the amount of information to be
18 transmitted is relatively small, digitally modulating
19 second information as the information upon performing
20 spread spectrum to obtain the same bandwidth as the
21 predetermined bandwidth with the center frequency, and
22 sending out the information as the communication data,
23 and

24 a reception device including demodulation
25 means for demodulating the communication data sent from
26 said transmission device, de-spreading appropriateness

27 discrimination means for checking whether or not a
28 signal after demodulation can be normally de-spread,
29 first information reproduction means for, when said
30 de-spreading appropriateness discrimination means
31 discriminates that de-spreading cannot be normally
32 performed, reproducing the first information from the
33 signal after demodulation by said demodulation means,
34 de-spreading means for, when said de-spreading
35 appropriateness discrimination means discriminates that
36 de-spreading can be normally performed, de-spreading the
37 signal after demodulation by said demodulation means,
38 and second information reproduction means for
39 reproducing the second information from the signal after
40 de-spreading by said de-spreading means.

2. A variable communication system according
2 to claim 1, characterized in that

3 said transmission device further comprises a
4 transmission buffer which sequentially receives
5 information to be transmitted and outputs the
6 information in synchronism with a predetermined read
7 clock, and

8 said information amount magnitude
9 discrimination means discriminates from an amount of
10 information left in said transmission buffer whether the
11 amount of information per unit time is relatively large
12 or small.

3. A variable communication system according

2 to claim 2, characterized in that said first and second
3 communication data sending means include chip clock
4 generating means for outputting a chip clock having a
5 predetermined frequency, transmitting-side frequency
6 dividing means for frequency-dividing the chip clock
7 output from said chip clock generating means at a
8 predetermined frequency division ratio, read clock
9 selection means for, when said information amount
10 magnitude discrimination means discriminates that
11 information to be transmitted is relatively large,
12 setting the chip clock as the read clock, and when said
13 information amount magnitude discrimination means
14 discriminates that information to be transmitted is
15 relatively small, setting, as the read clock, a clock
16 obtained by frequency-dividing the chip clock by said
17 transmitting-side frequency dividing means, spreading
18 code generating means for receiving the chip clock and
19 generating a spreading code, transmitting-side switch
20 means which receives an output from said spreading code
21 generating means and is turned on only when said
22 information amount magnitude discrimination means
23 discriminates that information to be transmitted is
24 relatively small, transmitting-side exclusive addition
25 means for calculating exclusive-OR between information
26 output from said transmission buffer in synchronism with
27 the read clock and an output from said transmitting-side
28 switch means, and modulation means for digitally

29 modulating an output from said transmitting-side
30 exclusive addition means and transmitting the output as
31 the communication data.

4. A variable communication system according
2 to claim 2, characterized in that said first and second
3 communication data sending means include chip clock
4 generating means for outputting a chip clock having a
5 predetermined frequency, transmitting-side frequency
6 dividing means for frequency-dividing the chip clock
7 output from said chip clock generating means at a
8 predetermined frequency division ratio, read clock
9 selection means for, when said information amount
10 magnitude discrimination means discriminates that
11 information to be transmitted is relatively large,
12 setting the chip clock as the read clock, and when said
13 information amount magnitude discrimination means
14 discriminates that information to be transmitted is
15 relatively small, setting, as the read clock, a clock
16 obtained by frequency-dividing the chip clock by said
17 transmitting-side frequency dividing means, modulation
18 means for digitally modulating information output from
19 said transmission buffer in synchronism with a read
20 clock, spreading code generating means for receiving the
21 chip clock and generating a spreading code,
22 transmitting-side switch means which receives an output
23 from said spreading code generating means and is turned
24 on only when said information amount magnitude

25 discrimination means discriminates that information to
26 be transmitted is relatively small, transmitting-side
27 exclusive addition means for calculating exclusive-OR
28 between an output from said modulation means and an
29 output from said transmitting-side switch means and
30 transmitting the data as the communication data.

5. A variable communication system according
2 to claim 3, characterized in that said de-spreading
3 means and said first and second information reproduction
4 means include reception clock generating means for
5 outputting a reception clock identical to the chip
6 clock, de-spreading code generating means for generating
7 a de-spreading code on the basis of the reception clock
8 output from said reception clock generating means,
9 receiving-side switch means which receives an output
10 from said de-spreading code generating means and is
11 turned on only when said de-spreading appropriateness
12 discrimination means discriminates that de-spreading can
13 be performed, receiving-side exclusive addition means
14 for calculating exclusive-OR between an output from said
15 receiving-side switch means and a signal after
16 demodulation by said demodulation means, receiving-side
17 frequency dividing means for frequency-dividing the
18 reception clock at the predetermined frequency division
19 ratio, write clock selection means for, when said
20 de-spreading appropriateness discrimination means
21 discriminates that de-spreading cannot be performed,

22 selecting the reception clock, and when de-spreading
23 appropriateness discrimination means discriminates that
24 de-spreading can be performed, selecting and outputting
25 a clock obtained by frequency-dividing the reception
26 clock by using said receiving-side frequency dividing
27 means, and a reception buffer in which an output from
28 said receiving-side exclusive addition means is written
29 as an input in accordance with the write clock selected
30 by said write clock selection means, and data stored in
31 said reception buffer is set as the information to be
32 transmitted.

6. A variable communication system according
2 to claim 5, characterized in that said reception clock
3 generating means comprises reception clock reproduction
4 means for reproducing a reception clock from
5 communication data input to said demodulation means.

7. A variable communication system according
2 to claim 2, characterized in that said information
3 amount magnitude discrimination means sets a
4 predetermined difference between a threshold by which it
5 is discriminated that an information amount is
6 relatively large and a threshold by which it is
7 discriminated that an information amount is relatively
8 small.

8. A variable communication system according
2 to claim 7, characterized in that said information
3 amount magnitude discrimination means sets a threshold

4 by which it is discriminated that an information amount
5 is relatively large to a value larger than a threshold
6 by which it is discriminated that an information amount
7 is relatively small.

9. A variable communication system according
2 to claim 1, characterized in that said information
3 amount magnitude discrimination means discriminates,
4 depending on whether or not a path through which
5 information to be transmitted is acquired is a
6 pre-specified path, whether the amount of information to
7 be transmitted per unit time is relatively large or
8 small.

10. A variable communication system according
2 to claim 1, characterized in that said information
3 amount magnitude discrimination means discriminates,
4 depending on whether or not a device which processes
5 information to be transmitted is set in a pre-specified
6 mode, whether the amount of information to be
7 transmitted per unit time is relatively large or small.

11. A variable communication system according
2 to claim 1, characterized in that said transmission
3 device and said reception device comprise a radio
4 device.

12. A variable communication system according
2 to claim 1, characterized in that said transmission
3 device outputs transmission power in proportion to a
4 transmission rate.